May 17.—M. Henri Deslandres in the chair.—G. **Bigourdan**: Lechevalier at the Observatory of Saint-Geneviève. The co-ordinates of this observatory.—M. **Hamy**: A particular case of diffraction of the images of circular stars of large diameter.—L. E. Dickson was elected a correspondant for the section of geometry in succession to M. Cosserat, elected non-resident member.—P. **Humbert**: The general solution of the system which satisfies the function W (x, y).—N. **Pipping**: A criterion for real algebraical numbers, based on a direct generalisation of Euclid's algorithm.—J. **Drach**: The spiral compensator and new problems of the mechanics of regulation. The spiral compensator of M. Guillaume, obtained by addition of a third or a fourth metal to an iron-nickel alloy, is the first example of a solid the elasticity of which increases with the temperature. The application of this to the control of chronometer balance-springs is discussed, and reasons are given for supposing that the chronometer will equal the astronomical clock in accuracy.—Ch. **Frémont**: The genesis of cracks in certain axles.—P. **Morin**: The study of flow over a weir with the aid of chronophotography.—M. **Battestini**: The optimum magnification of a telescope. The magnification of a reading telescope should be reduced proportionally to the square root of the illumination of the field.—L. **Thielemans**: Calculations and diagrams of lines carrying energy to great distances.—G. **Bruhat**: The properties of fluids in the neighbourhood of the critical point and the characteristic equations.—J. **Villey**: The discussion of Michelson's experiment.—C. **Zenghelis** and B. **Papaconstantinos**: The acceleration of the decomposition of hydrogen peroxide by colloidal rhodium. From measurements of the velocity constants the reaction is shown to be unimolecular. If the solution of colloidal rhodium is treated with a current of hydrogen or carbon monoxide the reaction is accelerated.—F. **Bourion**: The impurities of the benzene extracted from commercial chlorobenzenes. Normal hexane and heptane have been isolated, and also chloroform, from benzene extracted from commercial chlorobenzene.—C. **Matignon** and Mlle. **Marchal**: The prolonged action of carbon dioxide on silicates and quartz. Six minerals and glass were submitted to the action of a solution of carbon dioxide in water under a pressure of 10 atmospheres for a period of ten years and three months. The quantities of silica in solution were estimated, and the minerals after this exposure examined microscopically for evidence of attack. Quartz, wollastonite, mica, talc, dioptase, and asbestos showed signs of corrosion. With glass the corrosion was scarcely perceptible.—J. **Bougault** and J. **Perrier**: The action of hydrocyanic acid on glucose: Kiliani's reaction. In solutions faintly acid, even as weak as hundredth normal, the combination between hydrocyanic acid and glucose does not take place, and this would also appear to be the case in neutral solution. A slight alkalinity, even as small as that derived from the glass containing vessel, determines the reaction, which is therefore probably between glucose and alkaline cyanide. The reaction between potassium cyanide and glucose was quantitatively studied, and proved to be bimolecular.—L. **Cayeux**: The Hettangian iron minerals of Burgundy. The iron mineral at Beauregard is not oolitic, but the whole of the oxide of iron is a substitution product for calcium carbonate.—Ph. **Négris**: The alternatives of the Glacial and inter-Glacial epochs during the Quaternary period.—G. **Ferronnière**: An Eifel layer of the Basse-Loire synclinal.—A. **Boutaric**: The intensity of nocturnal radiation at high altitudes.—E. **Rothé**: A new electrical anemometer. For observations of wind velocities at high altitudes the anemometer is carried in a small captive balloon, and the anemometer vane serves as an interrupter, which at each contact puts in action a small electrical oscillator. At the base of the cable holding the balloon is a small receiving apparatus for detecting wireless signals. The indications of several instruments fixed at different heights up the cable can be received simultaneously.—G. **André**: The exosmosis of the acid principles and sugars of the orange.—P. **Bugnon**: The structure of certain fibro-vascular bundles in the stems of the Graminaceæ.—H. **Piéron**: The variation of the energy as a function of the time of stimulation for peripheral vision.—A. **Mayer**, H. **Magne**, and L. **Plantefol**: The reflexes provoked by irritation of the respiratory passages. Action of the general exchanges of the organism. The irritation of the terminations of the trigeminal nerve in certain mammals has the effect of causing, for more than half an hour, a reflex diminution of the general exchanges of the organism. These may be lowered to a value very small compared with the normal.—A. **Desgrez** and H. **Bierry**: Nitrogen equilibrium and lack of vitamines.—R. **Hovasse**: The number of chromosomes in parthenogenetic tadpoles.—M. **Delage**: Remarks on the preceding communication.—J. **Legendre**: The food *régime* of *Carassius auratus* in Madagascar.

Books Received.

The Story of a Cuckoo's Egg. By H. Terras. Pp. 95. (London: The Swarthmore Press, Ltd.) 6*s*. net.

A Primer of Air Navigation. By H. E. Wimperis. Pp. xiv+128. (London: Constable and Co., Ltd.) 8*s*. 6*d*. net

The Identification of Organic Compounds. By the late Dr. G. B. Neave and Prof. I. M. Heilbron. Second edition. Pp. viii+88. (London: Constable and Co., Ltd.) 4*s*. 6*d*. net.

The Blind: Their Condition and the Work being done for them in the United States. By Dr. H. Best. Pp. xxviii+763. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd.) 21*s*. net.

Australian Meteorology: A Text-book, including Sections on Aviation and Climatology. By Dr. Griffith Taylor. Pp. xi+312. (Oxford: At the Clarendon Press.) 12*s*. 6*d*. net.

Keys to the Orders of Insects. By F. Balfour-Browne. Pp. vii+58. (Cambridge: At the University Press.) 7*s*. 6*d*. net.

Beauty and the Beast: An Essay in Evolutionary Æsthetic. By S. A. McDowall. Pp. vii+93. (Cambridge: At the University Press.) 7*s*. 6*d*. net.

Thermodynamics for Engineers. By Sir J. A. Ewing. Pp. xiii+383. (Cambridge: At the University Press.) 30*s*. net.

A Text-book of Physiology. By Prof. R. Burton-Opitz. Pp. 1185. (Philadelphia and London: W. B. Saunders Co.) 32*s*. 6*d*. net.

Intermediate Text-book of Chemistry. By A. Smith. Pp. vi+520. (London: G. Bell and Sons, Ltd.) 8*s*. 6*d*. net.

An Elementary Treatise on Differential Equations and their Applications. By Prof. H. T. H. Piaggio. Pp. xvi+216+xxv. (London: G. Bell and Sons, Ltd.) 12*s*. net.

Problems in Physical Chemistry: With Practical Applications. By Dr. E. B. R. Prideaux. Second edition. Pp. xii+294. (London: Constable and Co., Ltd.) 18*s*. net.

La mort et son mystère: Avant la Mort. By C. Flammarion. Pp. 401. (Paris: E. Flammarion.) 6.50 francs net.

An Introduction to Entomology. By Prof. J. H.

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Comstock. Part i. Second edition. Pp. xviii+220. (Ithaca, N.Y.: The Comstock Publishing Co.) 2.50 dollars net.

Plant Indicators: The Relation of Plant Communities to Process and Practice. By F. E. Clements. Pp. xvi+388+92 plates. (Washington: Carnegie Institution of Washington.)

Carnegie Institution of Washington. Year Book No. 18, 1919. Pp. xvi+380+plate. (Washington: Carnegie Institution of Washington.)

Egyptological Researches. Vol. iii. By W. Max Müller. Pp. 88+40 plates. (Washington: Carnegie Institution of Washington.)

Elementary Agricultural Chemistry. By H. Ingle. Third edition. Pp. ix+250. (London: C. Griffin and Co., Ltd.) 5*s*.

Diary of Societies.

THURSDAY, JUNE 3.

INSTITUTION OF GAS ENGINEERS (at Institution of Mechanical Engineers), at 10 a.m.—Society of British Gas Industries: Carbonisation.—H. J. Hodsman and Prof. J.W. Cobb: Oxygen in Gas Production.—J. Fisher: Electricity Supply by Gas Companies.—G. Warburton: Contemplations on the Report of the Fuel Research Board.

ROYAL HORTICULTURAL SOCIETY (at Royal Gardens, Chelsea), at 3.—Capt. H. J. Page: Green Manuring—Its Possibilities in Horticulture.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—William Archer: Dreams with Special Reference to Psycho-Analysis.

ROYAL SOCIETY, at 4.30.—Sir Ernest Rutherford: The Nuclear Constitution of the Atom (Bakerian Lecture).

LINNEAN SOCIETY OF LONDON, at 5.—R. Swainson-Hall: Exhibition of 50 Drawings of the Oil-Palm, *Elaeis guineensis*.—A. Whitehead: Objects Observed near Basra during the War.—Prof. W. J. Dakin: Whaling in the Southern Ocean.—Dr. R. R. Gates: Demonstration of Chromosomes in the Pollen Development of Lettuce.

CHEMICAL SOCIETY, at 8.—M. O. Forster and W. B. Saville: Studies in the Camphane Series. Part XXXVIII. The Cyanohydrazone of Camphorquinone.—R. G. Fargher: Arsenic Acids derived from Guaiacol and Veratrole.—G. T. Morgan and D. C. Vining: Diphenylarsenious Chloride and Cyanide. (Diphenylchloroarsine and Diphenylcyanoarsine.)—F. Challenger and A. E. Goddard: Organo-derivatives of Bismuth. Part III. The Preparation of Derivatives of Quinquevalent Bismuth.—J. N Ray: Modification and Extension of Friedel-Crafts' Reaction. Part I.—F. Arnall: The Determination of the Relative Strengths of some Nitrogen Bases of the Aromatic Series and of some Alkaloids.—J. C. Ghosh: The Electrical Conductivity of Pure Salts in the Solid and Fused States; Determination of the Activity Coefficients of Ions in Solid Salts.—W. J. Sanderson and W. J. Jones: Anethole as Solvent in the Cryoscopic Method of Determining Molecular Weight.

ROYAL SOCIETY OF MEDICINE (Obstetrics and Gynæcology Section), at 8.—Dr. P. Turner: Traumatic Rupture of the Pedicle of a Sub-Peritoneal Fibroid.—Dr. F. Anderson: A Case of Rupture of the Uterus.—Dr. F. Shaw and Dr. Burrowes: Radical Cure of Advanced Carcinoma of the Cervix, made Possible by the Application of Radium.—G. Ley: The Pathology of Accidental Hæmorrhage.

FRIDAY, JUNE 4.

ASSOCIATION OF ECONOMIC BIOLOGISTS AND IMPERIAL ENTOMOLOGICAL CONGRESS.—Joint Meeting (at the Rothamsted Experiment Station), St. Pancras Station 10 a.m. train.

ROYAL SOCIETY OF ARTS (Indian and Colonial Sections, Joint Meeting), at 4.30.—Prof. Sir John Cadman: The Oil Resources of the British Empire.

ROYAL INSTITUTION OF GREAT BRITAIN, at 9.—Sir Ronald Ross: Science and Poetry.

SATURDAY, JUNE 5.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Dr. J. H. Jeans: The Theory of Quanta.

MONDAY, JUNE 7.

INSTITUTE OF ACTUARIES, at 5.—(Annual General Meeting.)

ROYAL INSTITUTION OF GREAT BRITAIN, at 5.—(General Meeting.)

SOCIETY OF CHEMICAL INDUSTRY (at Institute of Chemistry), at 8.—Informal Meeting.)

ROYAL INSTITUTE OF BRITISH ARCHITECTS, at 8.—(Election of Council.)

ROYAL SOCIETY OF ARTS, at 8.—Dr. W. Rosenhain: Aluminium and its Alloys (Cantor Lecture.)

ROYAL GEOGRAPHICAL SOCIETY (at Æolian Hall), at 8.30.—Prof. G. A. F. Molengraff: Ocean Research in the Dutch East Indies.

TUESDAY, JUNE 8.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 7.—Dr. W. H. Mills and Sir Wm. J. Pope: Studies on Photographic Sensitisers. Part II. (Sensitisers of the Type of Pinacyanol or Sensitol Red.)—G. I. Higson: A Simple Form of Non-intermittent Exposure Machine.—Mr. Offer: Examples of Photographs in Colour taken during Theatrical Performances.—(Lectures under the Control of the Scientific and Technical Group.)

WEDNESDAY, JUNE 9.

GEOLOGICAL SOCIETY OF LONDON, at 5.30.—Dr. C. G. Knott: Earthquake Waves and the Elasticity of the Earth.

INSTITUTION OF ELECTRICAL ENGINEERS (Wireless Section) (at Institution of Mechanical Engineers), at 6.—M. Latour: High Frequency Machines.

BRITISH PSYCHOLOGICAL SOCIETY (Education Section) (at College of Preceptors), at 6.—W. H. Winch: Equal Additions *versus* Decomposition in Teaching Subtraction: An Experimental Research.

THURSDAY, JUNE 10.

INSTITUTION OF MINING ENGINEERS (at Geological Society), from 11 a.m. to 5.—(General Meeting.)—Prof. H. Louis: Compensation for Subsidences.—W. Maurice: The Fleissner Singing-flame Lamp.—W. Maurice: The Wolf-Pokorny and Wiede Acetylene Safety-lamps.—G. Oldham: The "Oldham" Cap Type Miner's Electric Safety-lamp.—Discussion on First Report of the Committee on "The Control of Atmospheric Conditions in Hot and Deep Mines."—D. S. Newey: A New Method of Working Thick Seams of Coal at Baggeridge Colliery.—T. G. Bocking: Protractors.—T. G. Bocking: Magnetic Meridian Observations; A Method of Utilising the Kew Observatory Records.

ROYAL SOCIETY, at 4.30.—*Probable Papers.*—A. V. Hill and W. Hartree: The Thermo-Elastic Properties of Muscle.—Sir James Dobbie and J. J. Fox: The Absorption of Light by Elements in the State of Vapour: (1) Selenium and Tellurium; (2) Mercury, Cadmium, Zinc, Phosphorus, Arsenic, Antimony.—H. G. Cannon: Production and Transmission of an Environmental Effect in *Simocephalus vetulus*.—E. C. Grey: The Enzymes of *B. coli communis* which are Concerned in the Decomposition of Glucose and Mannitol. Part IV. The Fermentation of Glucose in the Presence of Formic Acid.—L. T. Hogben: Studies on Synapsis. II. Parallel Conjugation and the Prophase Complex in Periplaneta, with Special Reference to the Premeiotic Telophase.

LONDON MATHEMATICAL SOCIETY, at 5.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, at 5.—Dr. A. F. Hurst: The Psychology of the Special Senses and their Hysterical Disorders (Croonian Lecture).

OPTICAL SOCIETY, at 7.30.—Miss A. B. Dale: Accuracy of Setting.—Dr. J. S. Anderson: A New Method of Immersion Refractometry.

INSTITUTE OF METALS (at Institution of Mechanical Engineers), at 8.—Prof. C. A. F. Benedicks: The Recent Progress in Thermo-Electricity (Annual May Lecture).

FRIDAY, JUNE 11.

INSTITUTION OF MINING ENGINEERS (at Geological Society), from 11 a.m. to 5.

ROYAL ASTRONOMICAL SOCIETY, at 5.

PHYSICAL SOCIETY OF LONDON, at 5.—Dr. T. Barratt and A. J. Scott: Radiation and Convection from Heated Surfaces.—J. S. G. Thomas: An Electrical Hot-Wire Inclinometer.—L. F. Richardson: Convective Cooling and the Theory of Dimensions.—J. W. T. Walsh: The Radiation from a Perfectly Diffusing Circular Disc.

CONTENTS.

PAGE
Present State of the Dye Industry 413
Poetry and Medicine. By Prof. D'Arcy W. Thompson, C.B., F.R.S. 414
Movements of Plants. By V. H. B. 416
Applications of Electricity. By Dr. A. Russell . 418
British Iron Ores. By Prof. H. Louis 419
Our Bookshelf 420
Letters to the Editor:—
  The Flight of Flying-fish.—**Dr. J. McNamara** . . 421
  An Experiment on the Spectrum.—**Dr. R. A. Houstoun** 421
  Anti-Gas Fans.—**Mrs. Hertha Ayrton** 422
  A New Method for Approximate Evaluation of Definite Integrals between Finite Limits.—**C. F. Merchant** 422
  Applied Science and Industrial Research.—**Prof. Frederick Soddy, F.R.S.; Major A. G. Church** 422
  The Great Red Spot on Jupiter. (*With Diagram.*)—**W. F. Denning** 423
  British and Foreign Scientific Apparatus.—**J. W. Ogilvy; J. S. Dunkerly** 424
  Cost of Scientific Publications.—**Dr. C. G. Knott** . 425
Natural History Studies in Canada. (*Illustrated.*) . 426
Tidal Power. (*With Diagrams.*) 427
Obituary:—
  Prof. C. A. Timiriazeff, For.Mem.R.S. 430
Notes 431
Our Astronomical Column:—
  Return of Tempel's Comet 436
  Double Stars 436
  Diffraction Image of a Disc 436
Monument to Charles Gerhardt. By Sir T. E. Thorpe, C.B., F.R.S. 436
Biological Papers from Bengal 436
Attainment of High Levels in the Atmosphere . 437
Physical Problems in Soil Cultivation. By B. A. Keen 438
The Anomaly of the Nickel Iron Alloys: Its Causes and its Applications 438
Technical Education and Mind Training 439
University and Educational Intelligence 439
Societies and Academies 441
Books Received 443
Diary of Societies 444

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